

# 68 Searching for the Lost Children

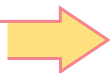


**T**he study of genetics provides scientists with answers to many questions and provides people with some practical solutions to problems. You learned about some of the practical outcomes of genetics when you studied Joe's dilemma. Genetic testing can help people take action about genetic conditions, but there are concerns involved as well.



Another practical outcome of genetics research is the ability to identify people. For example, wars and political actions sometimes lead to young children being taken from their families. When many years have passed, how can families ever find their children again?

## CHALLENGE



Can you use blood types to help identify lost children?

### MATERIALS



*For each student*

- 1 Student Sheet 68.1, "Guide to the Lost Children"
- 1 Student Sheet 68.2, "Finding the Lost Children"

### **Searching Scientifically**

Belinda and John and their good friends, Mai and Paul, almost never talk about their lost children. Five years ago, they were separated from their young children when enemy troops invaded their village of Namelia. Belinda and John escaped with their oldest son, but their two younger children, Serena and Noah, were captured. Mai and Paul lost both of their two young children. Many other young children and some of the elder people in the village were also captured.

When peace returned, the villagers searched for their lost children. After months of searching and waiting, there was no sign of them. But recently, the local authorities helped one family find one of their children in the village of Samarra, 100 miles away. He had been 6 years old when he was taken, so he remembered his parents and his name. Belinda and John decide to travel to Samarra with Mai and Paul.

When they reach Samarra, the authorities tell them they have found some children who were adopted during the war five years ago. These children were adopted shortly after the attack on Namelia, and evidence suggests they were originally from that village. The citizens of Samarra had fought the enemy troops and were able to save some of the children. The families who adopted the children have taken good care of them and they do not want to give them up. Nevertheless, the authorities hire some genetics experts, including you, to help identify the lost children.

One way to begin the process of identifying children of specific parents is to look at their blood groups. The ABO blood group and Rh factor will be used to determine which children cannot be matches. Rh factor is another kind of blood type. Rh positive is dominant over Rh negative.

## PROCEDURE

1. You have been chosen to join the genetics team going to Samarra. Before you leave you must review what you have learned about the genetics of the ABO blood group. Meet in your group of four to do this.
2. To help you with your assignment, look at your copy of Student Sheet 68.1, “Guide to the Lost Children.” Fill in the possible alleles for each person in Tables 1 and 2.
3. Examine the information in Tables 1 and 2 about Belinda and John, Mai and Paul, and the eight children who are the right ages to be their children. Use this information to complete the steps below to decide which children might belong to each of the two couples.
  - a. First determine which of the girls might be Belinda and John’s lost daughter Serena. Use the table provided on Student Sheet 68.2, “Finding the Lost Children,” to explain your reasoning for each of the four girls.
  - b. Determine which of the boys might be Belinda and John’s lost son Noah. Use the table provided to explain your reasoning for each of the four boys.
  - c. Determine which of the boys might be Mai and Paul’s lost son Ben. Use the table provided on Student Sheet 68.2, “Finding the Lost Children,” to explain your reasoning.
  - d. Determine which of the girls might be Mai and Paul’s lost daughter Jade. Use the table provided to explain your reasoning.

## ANALYSIS

1. How certain are you that some of the eight children belong to Belinda and John or to Mai and Paul?
2. What additional evidence would help you identify the lost children?